

Amendment to the Claims

Claims 1-28 (Canceled)

29. (Currently amended) A transgenic mouse whose genome comprises a disruption in the murine endogenous CX2 allele gene, wherein said disruption comprises replacement of nucleotides corresponding to bases 327 through 422 of SEQ ID NO:1 with a LacZ-Neo cassette.
30. (Previously presented) The transgenic mouse of claim 46, wherein the increased seizure susceptibility is characterized by a decreased response threshold to metrazol, relative to a wild-type control mouse.
31. (Previously presented) The transgenic mouse of claim 46, wherein the increased glucose tolerance or increased ability to metabolize glucose is characterized by a decrease in blood glucose level after administration of glucose, relative to a wild-type mouse.
32. (Previously presented) A cell or tissue obtained from the transgenic mouse of claim 29.
33. (Canceled)
34. (Canceled)
35. (Canceled)
36. (Previously presented) A method of producing the transgenic mouse of claim 1, the method comprising:
 - a. introducing a targeting construct capable of disrupting the endogenous murine CX2 gene into a murine embryonic stem cell;
 - b. selecting for the murine embryonic stem cell which has undergone homologous recombination;
 - c. introducing the murine embryonic stem cell selected for in step (b) into a mouse blastocyst;
 - d. implanting the resulting blastocyst into a pseudopregnant mouse, wherein the resultant mouse gives birth to a chimeric mouse; and
 - e. breeding the chimeric mouse to produce the transgenic mouse.
37. (Canceled)
38. (Previously presented) A targeting construct comprising:
 - a. a first polynucleotide sequence homologous to at least a first portion of an endogenous murine CX2 gene;

- b. a second polynucleotide sequence homologous to at least a second portion of the endogenous murine CX2 gene; and
 - c. a selectable marker gene located between the first and second polynucleotide sequences.
- 39. (Previously presented) A method of producing a targeting construct, the method comprising:
 - a. providing a first polynucleotide sequence homologous to at least a first portion of an endogenous murine CX2 gene;
 - b. providing a second polynucleotide sequence homologous to at least a second portion of the endogenous murine CX2 gene;
 - c. providing a selectable marker gene; and
 - d. inserting the first sequence, second sequence, and selectable marker gene into a vector such that the selectable marker gene is located between the first and second sequences to produce the targeting construct.
- 40. (Canceled)
- 41. (Canceled)
- 42. (Currently amended) The transgenic mouse of claim 29 wherein said mouse is heterozygous for said ~~null allele~~disruption.
- 43. (Currently amended) The transgenic mouse of claim 29 wherein said mouse is homozygous for said ~~null allele~~disruption.
- 44. (Canceled)
- 45. (Canceled)
- 46. (Previously presented) The transgenic mouse of claim 43 wherein said mouse exhibits, relative to a wild-type control mouse, at least one of increased seizure susceptibility, increased glucose tolerance, and increased ability to metabolize glucose.